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ART. CCXXXVII.—*Notes of a Botanical Ramble in Yorkshire &c. in the Summer of* 1844. Communicated by JAMES BACKHOUSE, JUN.

(Continued from p. 1069).

ON the 4th of 7th Month we finally quitted our quarters at the High Force, and sending our luggage round by the turnpike road, we crossed the moors separating Teesdale from the valley of the Lune. Crossing the foot-bridge below the fall, we took a southerly direction. Near a farm house just above the bridge, we gathered a few specimens of Peucedanum Ostruthium. For several miles we walked over high moor-land, presenting little variety: we noticed Sedum villosum, Caltha palustris, β. *minor*, and Potamogeton plantagineus. In the bed of a stream near the head of Lunedale, we found Galium pusillum, which we have not yet noticed in Teesdale. On reaching the road from Middleton to Brough, we followed it for several miles, till we came to the head of Swindale, a precipitous glen beautifully wooded on both sides. Having heard that Asarum europæum had been found in this neighbourhood, several years ago, we were very desirous of meeting with it, but our time was so limited, and the woods were so extensive, that we soon saw there was little probability of our finding it. We made our way along the bottom, over the rough rocky bed of a mountain torrent, and were repaid for our toil by discovering another locality for Equisetum umbrosum, the more interesting as it was in another county (Westmoreland). We also noticed Hieracium murorum and Lawsoni, and in the lower part of the glen we gathered Equisetum hyemale and Epilobium angustifolium, both of which were very abundant. Regaining the high road we passed through the little town of Brough, which is situated near the foot of a ragged limestone scar, and took the road for Kirkby Stephen, where we stopped that night.

The following morning we took the Hawes road, and entered the deep glen of Mallerstang, which is bounded on each side by lofty hills attaining to 2330 feet in height. Soon after leaving Kirkby Stephen, we found Stachys ambigua in small quantity. From the length of the journey before us, we had not time to examine the craggy sides of the hills round Mallerstang, but we have little doubt that a botanist who could devote a few days to this district would be well repaid. At the upper end of the valley, the river (here forming the boundary between Yorkshire and Westmoreland) flows through a narrow limestone gorge occasionally not more than three or four feet wide, yet in some places nearly a hundred feet in depth. This gorge, from its depth and darkness, has acquired the name of Hell-gill. Turning towards the west, we ascended the southern ridge of Wild-boar Fell. It was covered in most places with ling, and we saw only Vaccinium Oxycoccus in addition to the plants previously noticed as occurring on hills of a similar character. The view from the summit was fine, embracing the greater part of Howgill Fells, the valley of the Lune, and Morecambe Bay in the distance. Descending the side of Swarthfell, we followed a mountain path for some time, and after passing over the foot of Bowfell, we came into the main road, about three miles from Sedbergh.

The following morning we set off to visit Cautley Spout, a waterfall on Howgill Fells about six miles from Sedbergh. On the wooded banks of the river we gathered Stellaria nemorum and Circæa alpina, *β. intermedia*. In the hedges we noticed Rosa inodora and Mentha rubra. Leaving the main road, we took a path which led to the foot of Cautley Spout, and commenced ascending the rocks by its side. This fall is composed of a series of beautiful cascades, which pour over the dark slate rocks from a considerable elevation. Howgill Fells are a cluster of round-topped slate mountains, covered in some parts with debris and short grass. Among the loose stones we noticed patches of Allosorus crispus, of greater size and luxuriance than any we had met with previously. On the rocks by the side of the fall we found Alchemilla alpina growing in great abundance; and higher up the mountain we were struck with the great profusion of Lycopodium Selago and alpinum, especially of the former. Here our party agreed to separate; two of them descended the eastern side, and on their way to Sedbergh gathered Œnanthe crocata, which was plentiful in a moist meadow. The others ascended to the summit, and were amply repaid by the magnificent prospect. In one direction, the southern part of Westmoreland, and the north of Lancashire lay like a map beneath, with the Cumberland mountains and Morecambe Bay in the back ground; while, in the extreme distance, the Isle of Man stretched like a line in the Irish sea. The lofty hills of the north-west of Yorkshire, with the beautiful vale of the Eden, terminated the view in another direction; and the grandeur of the whole was much increased by the heavy clouds which hung about the tops of the adjacent mountains. On the descent of the Fells near Sedbergh, Anchusa sempervirens was growing abundantly.

The following evening we visited the ruins of Firbank chapel, a place of much interest to our party; and thence proceeded to Kirkby Lonsdale, where we arrived late. The next morning we carefully examined the rocks in the neighbourhood of the bridge for Salix tenuifolia, which we soon discovered; we also noticed Saponaria officinalis and Catabrosa aquatica. Passing along the road towards Casterton, we gathered Geum intermedium; and in a lane beyond, we found Quercus sessiliflora. On the mossy rocks overhanging Whelprig brook, we gathered Hymenophyllum Wilsoni, sparingly. We then crossed the moors in a southerly direction for some miles; but little was noticed till we reached the Ingleton road at Leck, where we found Meconopsis Cambrica. Shortly afterwards we had a fine view of Ingleborough, though its top was enveloped in mist. Nothing worthy of particular notice was seen, till we arrived at the Bridge Inn, near Ingleton, with the exception of a solitary plant of Ceterach officinarum. After an hour's refreshment we again set out to explore Helks wood, which was formerly known as one of the localities for Cypripedium Calceolus; it seems to have been exterminated here, as in most of its other localities. Epipactis ensifolia has also been almost exterminated in this wood. We think it well to remark here, that in almost every instance, our British Orchideæ are damaged, if not destroyed, by gathering the stem when in flower, with the *whole* of the leaves on, even though the root be left perfectly uninjured.

Helks-wood extends for upwards of a mile along the steep and often precipitous sides of Thornton-beck. Here we gathered Rosa Doniana, Convallaria majalis, Polypodium calcareum, and a Salix closely resembling S. tenuifolia. Near the end of the wood is a pretty waterfall called Thornton Force. Returning through Ingleton, we noticed Senecio Saracenicus and Mentha citrata; the former occupied a considerable space near the centre of the village.

The next day we started early for Weathercote-cave, between four and five miles distant. Saxifraga aizoides adorned the edges of many of the rills by the road-side, with its bright golden flowers. A rapid descent over masses of rock brings you to the bottom of this remarkable opening, which has rugged precipitous sides. From a dark fissure near the top, a body of water pours down and instantly disappears among the tumbled stones at the bottom, producing a very curious and striking effect. Near the entrance of this cave we noticed Stellaria nemorum, Allium carinatum, Meconopsis Cambrica and Saxifraga

Geum; the last appears to have been originally planted there, but is now completely naturalized. After taking some refreshment at an inn in the vicinity, we commenced the ascent of Ingleborough. We crossed several extensive "limestone pavements," in the deep crevices of which we found Actæa spicata, Lastræa rigida, and some of the commoner ferns: on the grassy slope we noticed Aira cristata. The ascent of the mountain was steep but not difficult, and we were soon able to enjoy the fine bracing air and the extensive prospect from the summit. On the limestone rocks near the top we gathered Saxifraga oppositifolia, and below, on the millstone-grit, we saw Sedum Rhodiola in abundance, and after some search discovered Poa alpina in considerable quantity, though frequently growing in places scarcely accessible. H. C. Watson, in his 'Botanist's Guide,' remarks that he fears there is some error in the statement of this plant having been found on Ingleborough; but it will no longer be a matter of doubt, and we were gratified in being able thus to confirm the correctness of this locality. Here we also found a Poa, somewhat resembling the Teesdale Poa Parnellii, and which we at first took to be that species, but more minute investigation leads us to believe that it is P. nemoralis, var. *glauca*.

Rapidly descending the easy slope of the mountain on the east side, we passed a deep circular chasm of curious character, called "Gaping Gill Hole." A mountain stream pours into this chasm, falling to an unknown depth. A stone thrown in, after rebounding from side to side for a considerable space of time, sounds at last as though it was hurled into a spacious subterranean cavern. The stream again emerges at a place about a mile distant, and probably several hundred feet below the level of the entrance. On reaching the village of Clapham, we found a chaise waiting to convey us to Settle, where we soon arrived, and were kindly entertained for some days at the residence of our friend and fellow-traveller, John Tatham, jun. The day following was very much one of rest, as regards bodily exercise: we however visited the beautifully wooded rock called Castlebar, at the foot of which the town is situated. Here we saw abundance of Allium carinatum. Though the evening proved stormy and somewhat wet, we visited Attermire crags, about two miles distant. The fog on the hills made it difficult to see our way, as well as to distinguish plants. Having however a good guide, we soon came to the place where Lastræa rigida grows abundantly; we also noticed Cardamine impatiens, Hieracium rigidum and Lawsoni, and a single plant of Polystichum Lonchitis. This fern is very scarce here, only a few plants having been yet discovered among the tumbled limestone rocks. We were fully occupied till late in the evening with pressing and changing our specimens (which now amounted to a considerable number), preparatory to starting, as we proposed, the next morning, for Malham-cove, Gordale and Arncliffe; the account of which, with the remainder of our tour, we shall reserve for a concluding paper.

(To be continued).

Art. CCXXXVIII.—*Descriptions of New Mosses and Lichens from the Australian Colonies.* Written for the Botanical Society of London, by Thomas Taylor, Esq., M.D.*

The bundle of Musci and Lichenes, from a large miscellaneous collection of the late Allan Cunningham, and placed at my disposal by the liberality of Mr. Hewett Watson,† contained several duplicates and but few species, and of these a very limited number that were new. I proceed to notice and describe the most interesting. Hypnum arcuatum of Hedwig, to be found in very few collections, occurred growing on the bark of trees, at Norfolk Island. From New Zealand was received Hypnum flexile of Hooker, which has not been sufficiently distinguished from Leskea flexilis of Hedwig. From the same place was sent Leskea concinna, *Hooker*, a variety, however, much smaller than that figured either in the 'Musci Exotici' or in Schwægrichen's Supplement; the capsules, too, were not erect, but drooping from the bending of the upper part of the seta. From Norfolk Island came Leptostomum erectum of Brown, in the same specimens varying singularly in the size of the capsules. It was most pleasing to find gathered in New Zealand, Dicranum vaginatum of Hooker, described in the 'Musci Exotici' as coming from the elevated valleys of the Andes. Our common Usnea plicata, *Ach.*, occurred in New Zealand, and Sticta crocata, *Ach.*, with fine apothecia, so rare in Europe, was collected in an expedition to the interior of New South Wales, under Major Mitchell. I proceed to describe the new species.

Dicranum Menziesii, Tayl. Caule cæspitoso, erecto, subramoso: foliis undique imbricatis, erecto-patentibus, strictis, ex ovali basi longius tenuiterque setaceis, apice subserrulatis, uninerviis: capsula lineari-oblonga, apophysata, ex basi erecta apice curvata; operculo inclinato, longius rostrato.

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* Read before the Society September 6, 1844.

† "The collection (consisting chiefly of vascular plants) was purchased at public auction, after the death of Mr. Cunningham; and it is very probable that some of the specimens had been mingled together, though from different localities."—*H. C. W.*

Norfolk Island, *Allan Cunningham*. I had received the same from Mr. Menzies from New Zealand, and named it after him, in 1814.

Tufts wide, pale yellowish-olive above, darker below. Stems 1½ inch high, crowded, parallel, erect, branching principally near the base and then very sparingly. The leaves disposed to be heteromallous, but never circinate; the fruit scarcely exceeds the stems in height; in front of the capsule and at the base there is a projecting struma. The peristome is dark brown, the teeth strongly barred, unequally divided, the larger segment of one tooth always adjacent to the larger segment of the adjoining, which is not unusual in the genus. The calyptra is dimidiate, from a narrow base swelling considerably and then becoming subulate.

The figure of Dicranum fasciatum in Hedwig's Species, t. 28, is not unlike the present, differing, however, if we may judge from the description and plate, by the creeping stems, the nerveless leaves, whose summits are wider and shorter, the pedicels for the most part geminate and scarcely exserted, and the want of any struma to the capsule.

Bryum leptothecium, Tayl. Caule laxè cæspitoso, erecto, subramoso: foliis obovatis obliquè cuspidatis, marginatis, dentatis, in rosulam congestis: capsula curvata, lineari-oblonga; operculo conico, acuminulato.

Norfolk Island, *Allan Cunningham*. I had received this species from Mr. Menzies in 1814, collected in the same place.

Stems nearly 1 inch high, sending up from near the base of the perichætium a pair of annotinous shoots. The lower part of the stem is nearly naked, at the top and nearly at one point the leaves are clustered, and when moistened recurved and stellate; they are concave, carinate, somewhat oblique, with a sufficiently obvious margination; when dry each leaf is somewhat twisted in itself. The top of the pedicel and capsule both tend to form one curve; the capsule is usually remarkably slender. The inner peristome is split down for only about one fourth of its length, and has two filiform processes between each pair of perforated laciniæ.

In Bryum Billardierii, *Schwæg.*, the leaves are immarginate and the capsule pendulous and oblong. From the Swan River Bryum campylothecium, *Tayl. MS.*, the present is distinct, by the want of long excurrent nerves to the leaves, and the slender capsules, which gradually increase in width towards the top.

Bartramia tenuis, Tayl. Caule cæspitoso, erecto, subsimplici, gracili: foliis laxis, erecto-patentibus, ex lata ovata basi lanceolato-subulatis, serrulatis, flexuosis, subsecundis: capsula rotundato-oblonga, curvato-cernua, striata, basi hinc gibba; operculo convexo, umbonato.

Norfolk Island, *Allan Cunningham.* I had received this, collected in 1826 by Richard Cunningham, in New Zealand.

Tufts wide, pale yellowish-green. Stems scarcely 1 inch high, very slender, reddish-brown. Leaves rather distant, with fine acuminated tops, variously bent. The capsule under a lens shows a reddish-brown reticulation on the surface, with cells rather large. Under each dark brown, lanceolate, transversely barred tooth of the outer peristome, lies a pale yellowish tooth of the inner peristome, which is bifid, but with segments unequal in size.

The present ranks near some of the smaller varieties of Bartramia fontana, *Swartz*, but then the leaves are longer, narrower, and with the denticulations less prominent.

Hypnum excavatum, Tayl. Caule decumbente, surculis erectis, fastigiatìm ramosis: foliis imbricatis, patentibus, concavissimis, rotundatis, brevitèr apiculatis, integerrimis, basi binerviis: capsula ovata, inclinata; operculo conico, rostellato.

Five Islands, coast of New South Wales, *Allan Cunningham.* I had the same, collected in "Australia, 1823," by Fraser, through the kindness of Dr. R. K. Greville.

Tufts loose, very pale green. Stems either decumbent, with short branches; or the shoots erect, dendroid, with branches fascicled above. Leaves very round, in the dry state pitted in, when moistened, all equally tumid; they are set horizontally; they are shining from their great convexity. The capsules have a slight struma, are unequal in their sides, ovate, bent to one side. The pedicels are smooth: the perichætial leaves differing widely from the cauline in their lanceolato-acuminate shape.

The present may be readily known from its allied congener, Hypnum Arbuscula, *Hooker*, by the smaller size of all its parts, its more decumbent habit, and above all, by its more considerable although more slender pedicels.

Usnea scabrida, Tayl. Thallo erecto, scaberrimo, pallidè cinereo-flavescenti, fibrillis confertissimis, patenti-curvato-adscendentibus, subramosis: apotheciis demùm planiusculis, ciliis confertis radiantibus margine dorsoque tectis; disco stramineo-albido, pulverulento.

Interior of New South Wales, *Allan Cunningham*. I had received the same from Mr. James Drummond, from Swan River.

Thallus from 1 to 2 inches high, fastigiate, very rough; apothecia larger than in any of the congeners. The fibrils of the thallus and the ciliæ of the apothecia are quite analogous, and are buds, which may be observed expanding into new thallus.

The *Usnea florida* of Acharius is known from the present, by its greater size and by the backs of its apothecia being quite smooth.

Parmelia tubularis, Tayl. Thallo orbiculari, stellato, albido, lobis subpinnatifidis, linearibus, planiusculis, subtus inflatis, impresso-corrugatis, aterrimis, glabris: gemmis marginalibus, elongato-granulatis demùm linearibus: apotheciis substipitatis, concavis, disco castaneo lævi, margine subintegerrimis.

Interior of New South Wales, *Allan Cunningham*. I had the same from Van Diemen's Land, by favour of Dr. Balfour.

Thallus from 1 to 2 inches in diameter, white, with black edges; the linear lobes are sometimes convex. The apothecia sometimes in old age are half an inch in diameter, and then jagged at the edges and nearly plane at the disk.

This is one of a small tribe of the Parmeliæ with inflated lobes. It is easily known from the European P. diatrype and P. physodes both of Acharius, by the deeper division of the thallus into linear lobes to the very centre, while the lobes themselves are far more distinct.

THOS. TAYLOR.

ART. CCXXXIX.—*List of Plants observed in the dried-up bed of a Wear on Luddenden-brook, in July*, 1844. By S. KING, Esq.

THE following is a list of plants observed during the month of July, 1844, growing upon what is in this neighbourhood called *damstones* (a wear), situate in Luddenden-brook. It is a sort of novelty, many of the plants contained in it being strangers in the neighbourhood; and will at least show the dryness of the season, and the scarcity of water, in permiting the seeds to vegetate in such a place, which contains little more than a hundred yards of surface. It will also show, in some degree, the means whereby plants are frequently dispersed abroad to places foreign to them, as there is not the least doubt that many of them have escaped from the sweepings of the corn-mill which stands upon the stream a few hundred yards above, whither they had been conveyed among the grain. Those marked thus * were not previously known to grow in this district. The list comprehends the species that grew on the fence-wall adjoining, though none but what a person standing in the water-course might reach. I have no doubt that the number of species would have greatly increased, had not a change taken place in the weather and brought on a flood, which quite obliterated my prolific bit of botanizing ground.

- Anemone nemorosa
- Ranunculus acris
  - repens
- *Papaver Rhœas
- Cardamine hirsuta
- *Erysimum cheiranthoides, plentiful.
- Brassica Napus
- Sinapis arvensis
  - * nigra
- Lepidium campestre
- Viola canina
- Silene inflata
  - * anglica, a single plant
- *Lychnis vespertina
- Sagina procumbens
- Spergula arvensis
- Stellaria nemorum
  - media
  - uliginosa
- Cerastium viscosum
- Geranium robertianum
- Lotus major
- Vicia sepium
- *Ervum tetraspermum, plentiful
  - * hirsutum, ditto
- Orobus tuberosus
- Spiræa Ulmaria
- Alchemilla arvensis
- Rubus fruticosus
- Rosa canina
- Cratægus Oxyacantha
- Pyrus aucuparia
- Epilobium montanum
- Chrysosplenium oppositif.
- Angelica sylvestris
- Heracleum Sphondylium
- Anthriscus sylvestris
- Galium Aparine
- Scabiosa succisa
- Tussilago Farfara
- Solidago Virgaurea
- *Anthemis arvensis, a single plant
- *Pyrethrum inodorum
  - * Parthenium
- Gnaphalium uliginosum
- Senecio vulgaris
- *Centaurea Cyanus, a single plant
- Lapsana communis
- Lactuca muralis
- Leontodon Taraxacum
- Sonchus oleraceus
- Hieracium paludosum
  - sabaudum
- Achillæa Millefolium
- Campanula rotundifolia
- Calluna vulgaris
- Fraxinus excelsior
- *Convolvulus arvensis, a single plant
- Digitalis purpurea
- Veronica Chamædrys
- *Acinos vulgaris, a single plant
- Galeopsis Tetrahit
- Galeobdolon luteum
- Stachys sylvatica
- Primula vulgaris
- Plantago major
  - lanceolata
- *Chenopodium album
- Atriplex patula
  - angustifolia
- Rumex obtusifolius
  - crispus
  - acetosa
- Polygonum lapathifolium
  - Persicaria
  - aviculare
  - Convolvulus
- Mercurialis perennis
- Ulmus montana
- Alnus glutinosa
- Juncus effusus
  - conglomeratus
  - bufonius
- Luzula sylvatica
- Carex remota
- Anthoxanthum odoratum
- Alopecurus pratensis
  - geniculatus
  - * agrestis, plentiful
- Agrostis vulgaris
- Aira cæspitosa
- Holcus lanatus
  - mollis
- Poa trivialis
  - annua
- Dactylis glomerata
- Festuca ovina
  - duriuscula
  - gigantea
- Bromus asper
  - * commutatus
  - mollis
- Brachypodium sylvaticum
- Triticum repens
- Lolium perenne
  - multiflorum, in tolerable quantity
  - temulentum, ditto
- Equisetum arvense
- Lastræa Filix-mas
  - dilatata
- Athyrium Filix-femina

Besides the above, there were also the cultivated wheat, oat, bean and potato. Some of the strangers occur in several other places down the brook, for half a mile together, along with *Lithospermum arvense, *Festuca bromoides, Chrysanthemum segetum, Agrostemma Githago, &c. &c.

Lane House, Luddenden,
near Halifax, Sep. 13, 1844.

SAML. KING.

ART. CCXL. — *Notes on some Queries about the 'London Catalogue of British Plants.'* Communicated by G. E. DENNES, Esq., Hon. Sec. Bot. Soc. London.

IN 'The Phytologist' for the current month (Phytol. 1077), a letter appears from the pen of Mr. Grindon, in which many queries are proposed to me, touching the reasons why certain names are used in the London Catalogue, for species which are designated by other names in the Edinburgh Catalogue,— why certain plants are entered as species and others as varieties, — why some are marked indigenous and others introduced? In reply to the letter, I can only say that it is manifestly impossible to answer such questions in detail, without writing enough to fill whole Nos. of 'The Phytologist.' The many pages written about the names and distinctions of Œnanthe pimpinelloides, Carex paradoxa, Primula elatior, Hieracium sylvaticum, and their respectively allied species or varieties, afford satisfactory proofs that *reasons* for names and distinctions are rather too lengthy affairs to be entered upon by scores at once.

It has already been stated (Phytol. 1015) that, almost without exception, the names employed in the London Catalogue are adopted from writers of authority; and, in most instances, they are names which have been very generally in use among botanical writers. Those who require reasons for such names, ought to seek them in the published works of the authors from whom they are taken. Those who object to the names so sanctioned, ought to show reasons against them, instead of idly calling for reasons why other parties have not rejected them.

Both Mr. Sidebotham and Mr. Grindon seem to have written under a strange fancy, that the compilers of the London Catalogue were in some way bound to have adopted exactly the same names as were employed by the compilers of the Edinburgh Catalogue. But if the names of this latter Catalogue had been implicitly adopted, other objectors would just as reasonably have asked, why a mere list of names was followed, in preference to the best descriptive works on British Botany, such as those of Smith, Hooker, or Babington? Not only do the Floras of Smith and Hooker (the highest authorities who have written Floras of Britain) differ from the Edinburgh Catalogue in many names, — but even, in several instances, the names of the Edinburgh Catalogue are again changed and made different in Mr. Babington's 'Manual of British Botany.' When we thus find the *same* author using one set of names in 1841 (Edinb. Cat.), and other names in 1843 (Manual), there can be no great ground for surprize or censure in the circumstance of two *different* Societies being still less uniform in their nomenciature.

Mutatis mutandis, similar observations may be extended to the distinctions between species and varieties, between native and naturalized plants. In very many instances they can be only the opinions of individuals, drawn from imperfect evidence. It is mere mis-use of terms to represent Mr. Sidebotham as endeavouring to "elicit the principle or plan" which was followed in distinguishing native and naturalized plants. There could be no "principle" — that is, general rule: each case must be decided by itself, on the best attainable evidence. One species (say, for example, Impatiens fulva) is excluded because known to have been introduced from a distant country; another (Corydalis lutea) because its localities are all near houses, or in spots to which the plant is likely to have been carried by the hand of man; another (Linum usitatissimum) as being a species long in ordinary cultivation, and not permanent in its localities. Thus, there is no common test applicable — no general rule — no "principle" to be followed. Indeed, it was one of Mr. Sidebotham's own errors to assume (not ask for) a principle, when he stated the number of local Floras as the test between native and naturalized species.

It is to be regretted that writers who seek controversy, are so prone to assume and assert things without the warranty of fact in support. It was wrong in Mr. Sidebotham to make the incorrect statement just adverted to. It is equally wrong in Mr. Grindon to connect the words "extensive changes in nomenclature" with the name of Mr. Sidebotham. Those words occurred in the editorial note (Phytol. 974), but not in Mr. Sidebotham's letter; and they were repeated by myself only in a paragraph which expressly related to the "editorial wishes for uniformity of nomenclature," (Phytol. 1015). By connecting these words with Mr. Sidebotham's name, Mr. Grindon is enabled to give a point blank contradiction to a charge —— never made!

Thus far I have replied to such portions of Mr. Grindon's letter as can be supposed to possess any general bearing or interest. I do this in my capacity of Secretary to the Botanical Society; though I cannot go so far as to allow that any office-bearer of the Society should feel called on to answer queries like this: — "if Carex irrigua is a variety, why not also rariflora?"

I have now only to add further, that any competent botanist, engaged in writing on the plants of Britain, will find no difficulty in obtaining such information as can be afforded, about any species or variety included in the London Catalogue,—provided his inquiries be addressed to me through the post-office. There seems no good reason for such questions being addressed to the readers of 'The Phytologist' generally: it looks too like mere display or notoriety-seeking.

G. E. Dennes.

Art. CCXLI. — *Notice of Presl's 'Hymenophyllaceæ.'*

(Continued from p. 1059).

The characters given to the Hymenophylloideæ are these.

> "Sorus in dentibus aut laciniis frondis apicalis immersus vel his consumtis sublateralis exsertus. Indusium e duabus laminis frondis divisis et alteratis constructum; hæ in varia altitudine marginibus connatæ indusium ad medium usque ad basim bifidum efformant. Receptaculum indusio longius vel æquilongum vel brevius, aut filiforme in parte superiore capsuliferum inferne nudum, aut apice globoso-incrassatum ibidem capsuliferum inferneque nudum, aut cylindricum aut obovato- vel lineari- clavatum undique capsuliferum."—p. 26.

It has already been pointed out (Phytol. 1047), that the main distinction between the Trichomanoideæ and Hymenophylloideæ, is founded on the structure of the involucre; this part, in the latter tribe, being for the most part composed of two distinct valves, which are separated nearly to the base. A perusal of the characters above cited will show that the receptacle affords litte or no assistance, since it is occasionally longer and occasionally shorter than the involucre, and that its form is as variable as its length. Indeed the author seems rather to have adopted this dichotomous division in compliment to his numerous predecessors, who, following Sir J. E. Smith, have treated the groups as genera, than to be impressed with any idea of its value or importance. Passages clearly evincing his views on this subject, are of frequent occurrence; for instance, in describing Leptocionium, he observes, "It is a genus intermediate between the Trichomanoideæ and Hymenophylloideæ, possessing the receptacle of the former and the involucre of the latter." We can scarcely avoid feeling regret that an author entertaining such views should hesitate to carry them out, and should bow to mere authority. We consider it impossible for any one, whatever his skill, to define for the satisfaction of others the genera or tribes known as Trichomanes and Hymenophyllum; and we hold it needful either to adhere, with Linnæus, to the genus Trichomanes, or to adopt the generic subdivisions to their fullest extent. For if we divide the Hymenophyllaceæ into sections of any kind, more than two such sections will be required; the Didymoglosseæ, for instance, will occupy a rank at least equal to the Hymenophylloideæ. A modern writer on Ferns has an apposite passage on this subject; and it seems not a little remarkable, that a work, so exactly supplying the desideratum there pointed out, should be so soon afterwards in the hands of botanists.*

Genus, LEPTOCIONIUM, *Presl.*

"Venæ pinnatæ, simplices, prominulæ, libere desinentes. Sorus terminalis, sessilis. Indusium usque fere ad basim bipartitum suborbiculatum, laciniis planis appressis margine æqualiter serrato-ciliatis. Receptaculum cylindricum, obtusum, undique capsuliferum, junius indusio æquilongum, adultum duplo longius nudum cicatriculis oblongis spiralibus notatum. Capsulæ lenticulares, sessiles.

"Rhizoma repens, filiforme, tenue, hinc inde paleis piliformibus patentibus adspersum, radicibus flexuosis pilis (radiculis) horizontalibus vestitis. Frondes sparsæ. Stipes semi-uni-pollicaris, teres, flexuosus, fusco-ater, aut glaber aut hinc inde paleis piliformibus adspersus. Frondis limbus semi-sesquipollicaris, lanceolatus, acuminatus, basi acutus, margine pilis bipartitis seu dicranoideis crassiusculis rigidis acutissi-

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* Hymenophyllum "was separated by Smith as a genus in the fifth vol. of the Turin Transactions, and the name has been adopted by nearly all subsequent botanists, a strong proof of the weight of Smith's authority, for even now, when generic subdivision has extended to so great a length, we have no new genera founded on such imaginary differences as those which separate Hymenophyllum from Trichomanes. In my endeavours to draw a line between these genera, I have been totally unsuccessful: if we regard the exserted receptacle of the one, or the bivalved involucre of the other, the only conclusion at which we can arrive is this—that those species with the longest receptacles at present stand in Trichomanes, those with the most distinctly bivalved involucres in Hymenophyllum. These, however, are mere questions of degree, and are quite insufficient to guide the botanist who — without a prior knowledge of a plant — seeks, by means of books, to ascertain its generic and specific names. It must not, however, be understood that I object to the subdivision of the Linnean genus Trichomanes; so far from this, I trust the time is not far distant when some competent botanist shall rearrange the entire group, pointing out characters that admit of no dispute, and leading us on to a far more accurate knowledge of these beautiful plants, than we can hope to glean from any works yet before the public." — Newman's British Ferns, p. 323.

mis ciliatus, profunde pinnatifidus, laciniis alternis oblongo-lanceolatis obtusis inciso-dentatis, dentibus obtusis apice serratis, serraturis remotis acutissimis subciliiferis. Parenchyma e cellulis hexagonis regularibus constructum, tenerum, transparens, in una pagina pilis bipartitis supra descriptis adspersum. Rachis prominula, flexuosa, fusca. Venæ pinnatim exorientes, prominulæ, fuscæ, simplices, apice libero obtuso desinentes rachideque in una pagina pilis bipartitis supra descriptis longioribus tamen et subinde ad ortum venarum tripartitis vestitæ, in altera glabræ. Sorus in dente infimo superiore laciniarum terminalis et illum absorbens et obliterans, sessilis, parvus. Indusium fronde paululum tenerius, e cellulis illa multo minoribus constructum, suborbiculatum, usque fere ad basim bipartitum, laciniis planis adpressis a medio usque ad apicem sinuato-æqualiter serratis, serraturis acutissimis in ciliam abeuntibus. Receptaculum cylindricum, obtusum, rigidum, rectum, junius indusio æquilongum undique capsuliferum, adultum indusio duplo longius denudatum et cicatriculis ovali-oblongis spiraliter ambientibus (a capsulis delapsis) instructum, ima basi parumper incrassatum. Capsulæ lenticulares, sessiles. Sporæ tetraëdricæ, verruculoso-punctulatæ."—p. 27.

1. L. dicranotrichum, *Presl.*

This truly beautiful and remarkable species was brought from Chili by Mr. Cuming, and its description is comprised in that of the genus. A second species, Hymenophyllum fucoides of Swartz, a native of Jamaica is doubtfully referred to the same genus.

Genus, MYRMECOSTYLUM, *Presl.*

"Venæ prominulæ, pinnatim ramosæ, venulis simplicibus liberis. Sorus terminalis, sessilis. Indusium ovale, utrinque convexum, profunde bifidum, laciniis conniventibus apice serrulato-ciliatis aut integris. Receptaculum indusio dimidio longius, cylindricum, rigidulum, a medio ad apicem pulvinis capsularum crebre verrucosum ibique capsuliferum. Capsulæ turbinatæ, sessiles. Rhizoma repens, teres, paleis piliformibus patentissimis vestitum, radicibus flexuosis radiculis piliformibus copiosis obsitis. Frons hygroscopica, stipitata, oblonga, utrinque acuta, glaberrima, bipinnata, pinnis oblongo-lanceolatis subpetiolulatis, pinnulis pinnatifidis, laciniis linearibus in typica et in chilensi specie sinuato-serrato-ciliatis undulatisque, in specie antillana integerrimis vel apice emarginatis. Stipes bi- tripollicaris, in M. tortuoso alatus, ala serrato-ciliata crispata versus basim decrescente, in M. clavato nudus teres filiformis. Raches fuscæ, in M. tortuoso alatæ, ala sinuato-serrato-ciliata undulato-crispata, in M. clavato teretes nudæ. Costæ prominulæ, fuscæ, flexuosæ. Venæ prominulæ, fuscæ, pinnatim ramosæ, venulis simplicibus apice libero desinentibus. Parenchyma transparens, e cellulis hexagonoideis constructum. Sori in laciniis frondis terminales, sessiles, satis magni. Indusium lineam longum, ovale, utrinque convexum, usque supra basim bifidum, laciniis conniventibus, in M. tortuoso apice serrulato — longe ciliatis, in M. clavato integris emarginatis margine planis aut undulatis repandisve. Receptaculum cylindricum, obtusum, rigidulum, rectum aut incurvum, junius indusio brevius aut æquilongum basi nudum et versus apicem capsuliferum, in M. tortuoso adultum indusio dimidio longius rarissime illo fere duplo longius et apicem versus pulvinis verrucæformibus capsularum spiraliter dispositis scabris crebrisque instructum, in M. clavato conforme, sed pulvinis his minoribus. Capsulæ lenticulari-turbinatæ, sessiles."—p. 28.

1. M. tortuosum. Trich. tortuosum, *Banks, in Herb. Jacq.* Hymen. tortuosum, *Hook. et Grev.*

This species, on which the genus is founded, was collected by Sir Joseph Banks in New Zealand, and a specimen, labelled Trichomanes tortuosum, was communicated by that illustrious naturalist to M. Jacquin, and is now in the herbarium of the Imperial Museum at Vienna.

2. M ? dichotomum. Hymen. dichotomum, *Cav.*
3. M. clavatum. Hymen. clavatum, *Sw.*

Genus, PTYCHOPHYLLUM, *Presl.*

"Costa teres. Venæ pinnatæ, alternæ, distantes, ramosæ, venulisque apice libero desinentes. Sorus in lacinia frondis terminalis, compressus, sessilis. Indusium ad duas tertias partes bifidum, laciniis ovatis obtusis, altera integra, altera bifida. Receptaculum lineari-cylindricum basi incrassatum nudum, apicem versus pulvinis verrucæformibus spiraliter dispositis provisum. Capsulæ lenticulares, verrucis receptaculi suboblique affixæ. Rhizoma repens, filiforme, ramosum, radicibusque sparsis paleaceo-pilosum. Frons stipitata, hygroscopica, tenera, transparens, pinnulis secundariis pinnatifidis integrisque, laciniis inæqualiter acutiuscule serrulatis longitudinaliter plicatis, cæterum glaberrimis, rachibus margine foliaceo in dentes acuminatos diviso provisis. Stipes uni- tri-pollicaris, teres, bifarie paleaceus vel potius margine frondis utriusque in dentes acuminatos paleæformibus dissoluto instructus. Costæ tenues, prominulæ, stipiteque rachibusque atro-fuscæ. Venæ venulæque teres, steriles apice libero desinentes. Parenchyma e cellulis hexagonoideis constructum. Sori in superiori frondis parte obvenientes, in laciniis terminales, sessiles, compresso-plani, mediocres. Indusium usque ad duas tertias partes longitudinis bifidum, laciniis ovatis obtusis conniventibus æqualibus altera usque ad duas tertias partes longitudinis bifida, laciniis æqualibus sinu acutiusculo divisis, altera integra. Receptaculum indusio æquilongum, rectiusculum, filiforme, teres, basi incrassatum inferneque cicatricibus linearibus longitudinaliter spiralibus, a medio usque ad apicem pulvinis verrucæformibus crebris patentissimis spiraliter ordinatis apice truncatis suborbiculatis et coloratis instructum. Capsulæ in verrucis seu potius pulvinis sessiles, oblique affixæ, lenticulares."—p. 29.

1. P. plicatum. Hymen. plicatum, *Kaulf.* Hymen. magellanicum, *Willd. herb.*

This species was brought from Chili by Chamisso and Cuming. Presl observes that although it possesses the general habit of the Hymenophyllaceæ, it is totally different in the structure of the fruit. He considers that by means of the genera Leptocionium, Myrmecostylum and Ptychophyllum, a complete and continuous series is formed of the Trichomanoideæ and Hymenophylloideæ.

Genus, HYMENOPHYLLUM.

"Costa teres, prominula. Venæ alternæ, distantes, ut plurimum ramosæ, sæpius utrinque pinnatæ, in pinnis dimidiatis in latere inferiori deficientes, steriles venulisque apice libero obtuso desinentes. Sorus in lacinia terminalis, aut suborbiculatus aut sæpissime ovalis, utrinque convexus, sessilis aut subpedicellatus. Indusium bilobum, bifidum aut bipartitum, lobis laciniisve demum patentibus. Capsulæ lenticulares, ses-

siles, receptaculo clavato obtuso undique affixæ. Rhizoma repens, tenuissimum, filiforme, ramosum, radicibus alternis radiculisque pilis paleæformibus copiosissimis vestitum. Frondes stipitatæ, hygrometricæ, teneræ vel tenerrimæ, sparsæ, transparentes, pinnatim divisæ, rarius pilis a basi furcatis vestitæ, sæpius sinuato-serrulatæ, serraturis subinde pilos simplices gerentibus, sæpius glaberrimæ, paginis conformibus. Stipes variæ longitudinis, teres, subinde marginato-alatus. Raches teretes, utrinque prominulæ, sæpe margine foliaceo alatæ. Costæ teretes, tenues, prominulæ. Venæ pinnatim exorientes, alternæ, ramosæ, non prominulæ, venulisque apice libero obtuso aut acutiusculo desinentes, in quibusdam speciebus ob pinnas dimidiatas i. e. latere pinnarum inferiore deficiente solummodo in latere pinnarum superiore obvenientes. Parenchyma e cellulis hexagonoideis constitutum, tenerum vel tenerrimum. Sorus in lacinia frondis terminalis, sæpissimæ laciniam ipsam efficiens, sessilis aut subpedicellatus, solitarius (in qualibet lacinia), mediocris, rarius parvus, in H. minimo solummodo in lacinia terminali obveniens et inde in fronde terminalis. Indusium e cellulis hexagonoideis constitutum, fronde tenerius, aut sub-orbiculatum usque ad medium bilobum (in Cycloglosso), aut ovale ad duas tertias vel tres quartas partes bifidum (in Euhymenophyllo et Craspedophyllo), aut usque ad basim bipartitum (in Sphærodio), lobis planiusculis conniventibus (in Cycloglosso), aut laciniis convexis conniventibus (in Euhymenophyllo), aut partitionibus valde convexis conchæformibus (sic dictis inflatis) demum patentissimis (in Sphærodio). Receptaculum undique capsulis obsitum, capsulis delapsis cicatricibus linearibus spiraliter ambientibus instructum, in Cycloglossis et Euhymenophyllis lineari-clavatum indusio æquilongum, in Sphærodio oblongo-clavatum demum indusio longius vel sublongius. Capsulæ lenticulares, sessiles, supra planæ et simpliciter cellulosæ, in Sphærodio superne excentrice stellato-radiatæ. Sporæ tetraëdricæ, punctis minutis verruculatæ."—p. 29.

This genus is divided into four sections, as under.

* SPHÆRODIUM.

1. H. Wilsoni, *Hook.* (H. tunbridgense, *Schk. Fil. t.* 135, *d*).

2. H. Meyeri, *Presl.* " H. glaberrimum, fronde oblonga obtusa pinnata, pinnis subpetiolulatis dimidiatis superne profundissime pinnatifidis, laciniis linearibus obtusis sinuato-acuteque serrulatis, soris sessilibus subglobosis, indusio integerrimo, receptaculo incluso, stipite rachique tereti nuda, petiolulo superne alato inferne nudo tereti. H. tunbridgense, b. *Drège, Pl. Cap. Exs.*

" Habitat in Capite Bonæ Spei, ubi legit clar. Drège."—p. 50.

3. H. antarcticum, *Presl.* " H. glaberrimum, fronde oblonga obtusa bipinnata, pinnis subsessilibus oblongo-lanceolatis, pinnulis oblongo-lanceolatis obtusis sinuato-acuteque serrulatis decurrentibus, soris pedicellatis obovato-subglobosis, indusio integerrimo aut obsolete denticulato receptaculum æquante, stipite rachibusque alatis. H. tunbridgense, *Sieb. Syn. Fil. n.* 134. *Flora Mixta, n.* 254.

" Habitat in Nova Hollandia ad Port Jackson, ubi legit Sieber."—p. 50.

4. H. Menziesii, *Presl.* " H. glaberrimum, fronde lanceolata bipinnata, pinnis petiolulatis dimidiatis, pinnulis linearibus acutis mucronato-sinuato-serrulatis, soris pedicellatis obovato-subglobosis, receptaculo indusium integerrimum æquante, rachibus superne alatis, inferne stipiteque teretibus nudis. H. tunbridgense, *Jacq. Herb. in Herb. Mus. Bot. Imp. Vien.*

" Habitat in Staatenland, ubi legit Menzies."—p. 51.

** EUHYMENOPHYLLUM.

5. H. valvatum, *Hook. et Grev.*

6. H. blepharodes, *Presl.* " H. fronde oblongo-lanceolata angustato-acuminata pinnata, pinnis oppositis alternisque petiolulatis lanceolatis obtusis profunde pinnatifidis, laciniis linearibus obtusis emarginatis mucronato-serrulatis, soris sessilibus ovatis obtusis, indusii laciniis apice ciliato-serratis demum patentissimis receptaculo longioribus, rachi superne alata, inferne stipiteque tereti costisque pilis simplicibus furcatisque aspersa.

" Habitat in insula Martinica, unde attulit Kohaut."—p. 51.

7. H. minimum, *Less. et Rich.*

8. H. tunbridgense, *Sw.*

9. H. asperulum, *Kunze.*

10. H. cupressiforme, *Labill.*

11. H. Drègeanum, *Presl.* " H. glaberrimum, fronde lanceolata angustato-acuminata bipinnata, pinnis petiolulatis, pinnulis lanceolatis obtusis profunde pinnatifidis, laciniis inferioribus cuneatis bilobis, superioribus integris lobisque linearibus obtusis emarginatis argute serrulatis, rachibus petiolulisque alatis, primaria basi stipiteque filiformi nuda, soris pedicellatis, indusio obovato receptaculum superante apice inæqualiter denticulato. H. tunbridgense, a. *Drège*, *Pl. Cap. Exs.*

" Habitat ad Promontorium Bonæ Spei, ubi legit clar. Drège."—p. 52.

12. H. peruvianum, *Hook. et Grev.*

13. H. seselifolium, *Presl.* " H. glaberrimum, fronde oblongo-lanceolata acuta tripinnata, pinnis petiolulatis alternis distantibus lanceolatis acutis, pinnulis primariis lanceolatis acutis, secundariis cuneato-lanceolatis tri- bifidis, laciniis emarginatis bilobisve alisque rachidum stipitisque ciliato-serrulatis, soris sessilibus, indusii laciniis ovato-lanceolatis obtusis integerrimis receptaculo longioribus.

" Habitat in Chile, ubi collegit clar. Cuming."—p. 52.

14. H. multifidum, *Sw.* Trichomanes multifidum, *Forst.*

15. H. unilaterale, *Bory.*

16. H. serra, *Presl.* " H. glaberrimum, fronde lanceolata acuta bipinnata, pinnis petiolulatis dimidiatis latere inferiore acuminato-serrulatis, pinnulis linearibus emarginatis rachibusque petiolulisque acuminato-serrulatis, infimis pinnarum inferiorum bifidis, soris sessilibus, indusio lanceolato obtuso integerrimo usque ad basim bifido receptaculum superante, stipite filiformi rachisque basi nudo.

" Habitat in Chile, ubi collegit clar. Cuming."—p. 53.

17. H. pectinatum, *Cav.*

18. H. secundum, *Hook. et Grev.*

19. H. asplenioides, *Sw.*

20. H. fumaroides, *Bory.*

21. H. Thunbergii, *Eckl. Pl. Cap. Un. It. n.* 92. H. tunbridgense, *Kunze*, *Acot. Afr. p.* 74, *partim.*

22. H. flabellatum, *Labill.*

23. H. nitens, *Brown.*

24. H. fraternum, *Presl.* " H. glaberrimum, fronde oblongo-lanceolata acuta tripinnata, pinnis petiolulatis ovatis obtusis, pinnulis primariis cuneato-lanceolatis obtusis, secundariis cuneatis bifidis, laciniis linearibus obtusis integerrimis, rachibus petiolulis stipitisque apice alatis, soris sessilibus, indusii laciniis ovatis obtusis inæqualiter obtuseque denticulatis receptaculum crassum superantibus.

" Habitat in Jamaica; inventor ignotus."—p. 54.

25. H. Poeppigianum, *Presl.* " H. glaberrimum, fronde lineari-lanceolata angustato-acuminata tripinnata, pinnis petiolulatis oblongis obtusis, pinnulis primariis ovato-lanceolatis obtusis, secundariis tri- bifidis integrisque laciniisque late linearibus obtusis emarginatis integerrimis, rachibus petiolulis stipitisque apice alatis, soris sessilibus, indusii usque ad basim bifidi laciniis ovato-subrotundis integerrimis receptaculum superantibus. H. clavatum, *Poeppig, Fil. Exs. Kunze, Fil. Poepp. in Linnæa, IX. p.* 109.

" Habitat in Peruvia ad Pampayaco, ubi collegit clar. Poeppig."—p. 54.

26. H. Jalappense, *Schlecht.*

27. H. Grevilleanum. H. polyanthos, *Hook. et Grev.*

28. H. polyanthos, *Sw.* H. millefolium, *Schlecht. Mathews, Pl. Pers. Exs. n.* 1790.

29. H. emarginatum, *Sw.*

30. H ? javanicum, *Spr.* H. crispum, *Nees et Blume.*

31. H. dædalum, *Blume.*

32. H. paniculiflorum, *Presl.* " H. glaberrimum, fronde ovata obtusa, tripinnata, pinnis petiolulatis ovatis obtusis, pinnulis primariis lanceolatis obtusis, secundariis linearibus indivisis obsolete emarginatis integerrimis, stipite basi tereti apice rachibusque alato, soris in apice frondis paniculatis, indusii usque fere ad basim bifidi laciniis orbiculatis receptaculum superantibus. *Cuming, Pl. Philip. Exs. n.* 214.

" Habitat in insulis Philippinis, verosimiliter in insula Luzon, ubi legit clar. H. Cuming."—p. 55.

*** Cycloglossum.

33. H. cæspitosum, *Gaudich. in Frey.*

34. H. Cumingii, *Presl.* " H. glaberrimum, fronde lineari pinnata, pinnis cuneiformibus obtusis pinnatifidis, superioribus dimidiatis, laciniis lato-linearibus obtusis emarginatis, stipite filiformi nudo, rachi alata, soris immersis, indusii ad medium bifidi laciniis orbiculatis integerrimis receptaculo æquilongis.

" Habitat in Chile, ubi legit clar. H. Cuming."—p. 56.

35. H. semibivalve, *Hook. et Grev.*

36. H. decurrens, *Sw.*

α. Jacquinianum, fronde lineari-lanceolata, *Jacq. Coll.* 2, *t.* 2, *f.* 1, 2.

β. Sieberianum, fronde ovata, *Trich. clavatum, Sieb. Syn. Fil. n.* 141, *partim.*

37. H. Kohautianum, *Presl.* " H. glaberrimum, fronde lineari-lanceolata acuta bipinnata basi angustata, pinnis petiolulatis alternis lanceolatis obtusis, pinnulis cuneato-lanceolatis obtusis pinnatifidis, laciniis linearibus emarginatis alisque rachidum integerrimis, rachibus petiolulisque alatis, stipite filiformi nudo, soris semiimmersis, indusio usque ad medium bifido, laciniis obovato-orbiculatis integerrimis receptaculo æquilongis. Trichomanes clavatum, *Sieb. Fl. Mart. n.* 250. *Syn. Fil. n.* 141, *partim.*

" Habitat in Insula Martinica, ubi legit Kohaut."—p. 56.

38. H. Schomburghii. Hymenophyllum, *Schomb. Pl. Guj. Exs. n.* 509.

**** Craspedphyllum.

39. H. marginatum, *Hook. et Grev.*

(To be continued).

ART. CCXLII. — *Additional Notes on Suffolk Botany.*

By W. L. NOTCUTT, ESQ.

Having on a former occasion communicated some particulars of an excursion I made in Suffolk last year (Phytol. 823), and having, this summer, revisited that part of the country, perhaps a few additional observations may not be altogether unacceptable. My visit, however, was paid at a period which, though one of the most pleasant in all the year, is not the most fertile for the botanist; namely, the latter part of May. I again observed most of the plants noticed in my last communication, though many of them were not in flower. In addition to these, I saw in the meadows bordering the river Gipping, a great abundance of Orchis latifolia and Saxifraga granulata, the former being especially luxuriant; while in the river itself was Potamogeton lucens, and at its sides and in the adjoining ditches, plenty of Cicuta virosa. In a pond in the meadows between the Gipping and the Bramford road, was a large patch of Acorus Calamus, just coming into flower. Œnanthe fistulosa grows in the neighbouring ditches, and Menyanthes trifoliata in the boggy parts of the meadow.

Turritis glabra I found in two other localities besides the one mentioned in my former paper. On the Belstead road I found it, though sparingly, from Stoke-hills to the place where the Belsted-brook crosses the road: at this latter spot Galium cruciatum abounds, and Malva moschata grows in small quantity. In the fields beyond, Sedum Telephium adorns the hedge-bank, and in a hedge a little further on, I found a tree of Quercus Cerris, most likely planted. I met with Turritis glabra again in a cornfield on the way to Downham-reach woods: it was just at the top of the hill above Greenwich-farm, at the bottom of which, on the river side, is Hog-island, a locality for Statice rariflora. This is a remarkably pleasant walk, and by no means devoid of botanical interest In the neighbouring cornfields we meet with Papaver Argemone, and at the end of them emerge into Gainsborough's lane, so named after the celebrated Suffolk painter, Gainsborough. Some of the views in this lane afford the most beautiful combination of river and wood scenery imaginable. At its termination are Downham-reach woods, which deserve, and I doubt not would richly repay, a close and careful investigation. Here was Orchis mascula in profusion, and just in its prime, and such magnificent specimens I certainly never beheld before. By the side of one of the ditches on the edge of the wood, I found, after a little search, plenty of Chrysosplenium oppositifolium; and by another near it, Cardamine amara.

At the back of Brook's hall, near Ipswich, is a hilly broom-field: here I found Orobanche major, which has maintained this station for a great number of years; it was, however, in very small quantity this year. I have not seen it elsewhere near Ipswich, though the broom, on which it commonly fixes its roots, is very abundant on Stoke-hill, near Greenwich-farm, Cauldwell-hall, &c. In the meadow behind Brook's hall grows Epilobium palustre, and in the pond in its front I used to find a Ceratophyllum, I suppose demersum, but this year it was not to be seen. Near this spot is a lane which leads by the Suffolk hospital and back of the barracks to the top of Globe-lane and in which I found Geranium pyrenaicum and Smyrnium Olusatrum in great abundance. Gagea lutea, a very rare plant in this part of England, I believe, may be found in Waller's grove, a copse on the left hand side of the London road, about a mile from Ipswich, on that side of the copse which faces Stoke-hills.

Botany being only a secondary object with me in this trip, I was unable to devote so much time to it as I could have wished, and could only spare one day to a search for plants at Felixtow and its neighbourhood. I found nothing more than I have recorded in my last account, excepting a Poa, which was growing in moderate plenty on the sands which form the point of Harwich-harbour by Landguard-fort; it appears to me to be P. bulbosa, though it differs in one or two points.

During my stay at Ipswich, I had the opportunity of looking over the herbarium of a friend and relative, Mr. John Notcutt, now deceased. He had resided for a long time in Ipswich; and being an ardent lover of Botany, had formed an intimate acquaintance with the plants of the neighbourhood, of which his collection consisted, for there appeared to be scarcely a specimen from any other place. Thinking a notice of some of the localities might be interesting, I transcribe those of a few specimens which were given me by the gentleman in whose hands the collection now is. With the exception of the two last, they are all in the immediate vicinity of Ipswich.

Pulmonaria angustifolia. Between Whitton and Bramford. I carefully examined this station without being able to detect the plant; but as the distance between the two villages is a mile or a mile and a half, and the plant was probably past flowering, it might easily have been overlooked. I possess the specimen, which was gathered in 1818.

Sambucus Ebulus. In the hedge at the N.E. corner of the second field N.E. of the gardener's house, between Brook's hall and Whitton, the second inclosure E. of the Norwich road, 1818.

Avena fatua. Borders of fields between Ipswich and Whitton.—Fields between Fonnereau's grove and the Henley road, 1819.

Hieracium Sabaudum. Roadside between Belstead and Bentley. In the hedge on the N. side of the Bucklesham road, between the entrance of the lane leading to Foxhall, and some huts; and in the lane on the E. side: also on the hedge-bank E. of the small plantation by the lane, 1818.

Lathyrus Aphaca. On the N. border of a field between Ipswich and Whitton, and adjoining the road on the W. side, with L. Nissolia. (There are specimens of the young seedlings with the real leaves: the stipules to the first pair are semi-sagittate: but the next pair of stipules are of the usual form).

Stellaria uliginosa. S. corner of Lower Bolton, by Diary-lane.—At the top of Spring-head lane, St. Helen's, with Chrysosplenium oppositifolium.

Mentha sylvestris. On a wet bank in the London road, just past Crane-hall, at the foot of the hill. N.E. side of the first cornfield S.E. of Brook's hall, adjoining an osier-ground.

Bromus giganteus. Back of Fonnereau's grove.

Erysimum cheiranthoides. In the meadow N. of Handford bridge, on the W. side of the river, within five or six feet of the wall near the bridge. Corn-fields by the side of the Orwell, between Hog island and Downham-reach, in the second field from Hog island.

Urtica pilulifera. Thorpe.

Frankenia lævis. Salt-marshes at Walberswick, near Southwold.

Besides these, there were fine specimens of Arnoseris pusilla, and several other interesting plants, the localities of which I had not time to transcribe. On the sheet which contained the specimens of Statice Limonium, there were two specimens of the normal form of that plant, and two of S. rariflora, which were marked, "S. Limonium, var.?" the locality was Hog island, near the cliff, Ipswich. My father has since visited the spot, and finds both S. Limonium and S. rariflora growing there, the latter is most plentiful. I may also add that my father has detected Reseda alba in a hedge at Felixtow, this summer, from which locality he has sent me several fine specimens.

W. L. Notcutt.

Fareham, Sept. 5, 1844.

ART. CCXLIII. — *Varieties.*

521. *Note on Lastræa Thelypteris.* Having seen a notice of Lastræa Thelypteris being found in Yorkshire, in small quantity, I beg leave to state that it is very abundant in two places in this vicinity,—Ascham-bog and Heslington-field.—*Jas. Backhouse, jun.; York,* 3rd *of* 9*th Month,* 1844.

522. *Note on a locality for Anthemis maritima.* On the pebbly part of the ballast-ground near Hartlepool, I lately gathered a single specimen of Anthemis maritima. I believe the only recorded *English* locality is "Sea-coast at Sunderland." Atriplex rosea and prostrata? are abundant in the neighbourhood of Hartlepool, and A. marina occurs more sparingly.—*Id.*

523. *Note on a Surrey locality for Ceterach officinarum.* I believe that at present there is no habitat recorded for Ceterach officinarum in the county of Surrey; I may therefore perhaps be allowed to point out to your readers "a local habitation" for this fern within the county. On looking over a collection of ferns, made by a young lady in this neighbourhood, I was much gratified by seeing a frond of Ceterach, which was stated to have been taken from a wall at Haslemere. Feeling a desire to verify the habitat, I mentioned the circumstance to my friend Mr. Salmon; and a few days afterwards (April 18, 1844), we together visited the spot—an old wall on the south side of Cow-street—where we found from thirty to forty plants. Of these we contented ourselves with a very few specimens. Mr. Salmon sent a notice of this habitat to Mr. Newman, hoping it might appear in the second edition of the British Ferns; his note, however, arrived too late, the last part of the British Ferns being published a very few days subsequently.— *Henry Bull; Godalming, Surrey, September* 13, 1844.

524. *Notes on the change of Colour in the Flowers of the Hydrangea.* Having paid particular attention to the common Hydrangea (*H. hortensis*) for several years, and during that time having made a variety of experiments with a view of ascertaining the probable cause of the frequent variation of colour so prevalent in that species, I offer the following remarks as the result of my observations. They will, I think, show the fallacy of the statements which have been recorded in various periodicals &c., of changing the large pink heads of blossoms into the fine blue colour, either by growing the plant in a particular soil (some persons say peat or bog soil), or by the addition of chemical agents to the soil: as well as that the blue colour is by no means permanent. When my attention was first drawn to the subject some

years ago, where I was then living, several very large Hydrangeas were growing in the open borders of a flower-garden, the soil being of various kinds. One plant, growing in a border of stiff tenacious clay, produced beautiful heads of a bright *pink* colour, while another by its side had every head of blossoms of a fine *blue*; and in the same border was a plant bearing blossoms of pink and blue intermixed, and of as fine a shade of colour as on the separate plants. The other border was a deep surface-soil of peat or bog-earth. The plants were of the same character in this as in the before-named border, and produced the same results, the blossoms being wholly pink, wholly blue, and mixed as before. I have plants here which are growing in clay; and last summer (1843) they bloomed pink and blue heads distinctly on the same plant. In the autumn of 1842 I took cuttings from plants, the pink and blue separately; in the following spring, when they flowered, every head of blossom was pink; the soil varied from peat to a stiff loam. In the autumn of 1843 I repeated my experiment, taking my cuttings again distinct, and potting some of them in pure loam, others in peat soil, others in equal parts of loam and leaf soil, others again in equal parts of loam and peat. No difference was perceptible this summer in the blossoms of those cuttings taken from plants with pink or blue flowers, with one exception, which was that one of the cuttings from the blue, produced *pale* blue flowers; the soil it was grown in was pure loam. A slight tinge of blue appeared in a few of the flowers on other plants, on cuttings taken from the pink kind as well as the other. Such has been the result of careful experiments, and I feel satisfied, as a practical cultivator, that the difference of colour in these plants is of a thoroughly sportive character, and will always be attended with uncertain results. For I would ask, if the soil causes the change of colour, why should it appear on the same plant, as well as on a plant when growing in soil of a decidedly opposite nature? I should be happy to hear of experiments on these plants made by some other correspondents.—*Jno. R. Henness; Dorking, September* 14, 1844.

525. *Note on Anagallis cærulea.* I beg likewise to mention having succeeded in raising Anagallis cærulea a second time from seeds of A. arvensis. The first time was in 1838, when, wishing to test the two plants as to their being distinct species, I had sown seeds of A. arvensis in a border, from which was produced one plant of cærulea. And again, in the present season, having sown some seed, I have obtained the same result; and I now think with Mr. Grindon (Phytol. 130), that A. cærulea is nothing more than a variety of A. arvensis. *Id.*

526. *Note on the Bulbs of Achimenes pedunculata.* In the autumn of 1843, I observed a singular phenomenon displayed by the small bulbs attached to the stem of Achimenes pedunculata; they are formed principally in the axils of the leaves. I had gathered a number of the bulbs into a small pan, and having occasion to move them afterwards, I was surprized at the apparently spontaneous irritability exhibited by the bulbs, which continued for some seconds expanding and collapsing with great rapidity. I enclose a small quantity of the bulbs for your inspection, and should be happy to supply any of your correspondents on application.—*Id.*

[On opening the box containing the bulbs (which resemble mulberries in miniature) when first received from Mr. Henness, we were very much surprized at the lively movement pervading the whole mass into which the bulbs had been compressed in their journey by post. They resembled a host of small beetles suddenly released from confinement in a small space, and bent on making the most of their newly acquired liberty.—*Ed.*]

527. *Note on Equisetum Telmateia.* Having seen a discussion in some former numbers (Phytol. 588, 618, 621, 648 and 649), respecting Equisetum Telmateia, as to the degree of moisture of the spot it usually grows in, I thought it might interest some to state that I have observed it growing commonly in corn-fields in the neighbourhood of Stock and Galleywood common near here. I was surprized to find the plant in a locality so generally occupied by E. arvense; probably the fields required landitching, though I could not perceive that they were particularly wet; they certainly were not low in situation. I have never seen this Equisetum growing in the water, but two other stations for it near here are much wetter than the preceding. *Alfred Greenwood; Chelmsford, September*, 1844.

ART. CCXLIV.—*Proceedings of Societies.*

BOTANICAL SOCIETY OF LONDON.

September 6, 1844.—John Reynolds, Esq., Treasurer, in the chair. Mr. T. Ingall presented a specimen of Teucrium Botrys, found in August last in a stony field at the back of Box-hill, between Brockham and the upper part of Headley-lane, (Phytol. 1086).

Read,—Descriptions of some new Mosses and Lichens from the Australian Colonies; by Thomas Taylor, Esq., M.D., (Phytol. 1093).